

Attorney Docket #10970913-3

Remarks/Arguments**A. Examiner's Remarks**

Claims 17-20 were rejected under 35 U.S.C. § 103(a) as being unpatentable over USPN 5,079,513 to Noguchi et al (hereinafter Noguchi) in view of USPN 5,400,188 to Hirschenberger et al (hereinafter Hirschenberger).

Claim 21 was objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

B. General comments

Claims 17-21 remain in this application. Although no claims have been amended or newly added in this response, a clean list of the claims is presented for the Examiner's reference, since no list has been submitted since the Revised Amendment Practice of 30 July 2003 took effect.

C. 35 U.S.C. §103(a) - claims 17-21

Claims 17-20 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Noguchi in view Hirschenberger.

Noguchi discloses a simplified method for limiting the amplitudes of I and Q. The exact calculations used to limit I and Q are shown in equations (4) and (5). Noguchi teaches that equations (4) and (5) may be approximated by equations (11), (12), (13), and (14) (Column 4, lines 14-46). The denominators of equations (11), (12), (13), and (14) may also be approximated by equations (15) and (16) (column 4, lines 59-66).

The Examiner cites column 5, lines 6-11 in Noguchi as teaching a power approximation circuit. However, Applicants respectfully disagree with the Examiner's interpretation of the citation. In lines 6-11, Noguchi is discussing how to calculate the power of 2, not the power of the signal. Specifically, Noguchi describes how to calculate

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the terms 2^{-k} , $2^{-(k+1)}$, $2^{-(k+2)}$, etc. in equation (16). These terms (the powers of 2) are calculated by shifting bits with a shift register (Figure 7, blocks 37-40; column 8, lines 38-50).

Noguchi teaches how to limit the amplitudes of I and Q. Noguchi does not teach approximating the actual power of a signal. Hirschenberger is cited for its teaching of an averaging function on combined absolute values. Noguchi combined with Hirschenberger would result in an averaging function performed after a limiting function. The two references, in combination, still do not teach approximating the actual power of a signal.

In distinct contrast to Noguchi and Hirschenberger, alone or in combination, the present invention teaches a demodulator that approximates the actual power of the signal. This novel feature is recited in claim 17: "... the power approximation circuit generating an approximate power value which indicates an actual power value for the complex signal".

Claim 17 is believed to be patently distinct over Noguchi and Hirschenberger. Therefore, claim 17 is believed to be allowable. Dependent claims 18-21 are believed to be allowable based on the allowability of claim 17.

No new matter has been introduced with this amendment. The rejections to claims 17-20 and the objection to claim 21 are believed to be overcome.


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Conclusion

If there are any further questions or if more discussion is required, the Examiner is invited to call the Applicants' agent at the telephone number given below. In view of the above, the claims presently in the application are believed to be distinct over the cited references and in condition for allowance. Accordingly, it is respectfully requested that such allowance be granted at an early date.

Respectfully submitted,

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